

Activity	MDP Sub-Program	Collaborating Institution	Contact(s)	MDP Contact	Comments
International					
APC Nb ₃ Sn	CPRD	CERN	A. Ballarino	D. Larbalestier	Pursuing the inverse of the Xingchen approach to allow an RRP type conductor but with custom alloys
Study of transverse loading on Rutherford cables in FRESKA II using 10mm cable with Hi-Lumi strands.	CPRD	CERN	Bernardo Bordini	Ian Pong	MDP to provide cable, CERN will test with participation of MDP
Testing CCT Nb ₃ Sn coil using 15 T dipole mechanical structure and L3-L4 coils as outsert*	Nb ₃ Sn CCT + 15 T dipole	PSI	Auchmann, B.	Zlobin, A.	FNAL will assemble 2-layer CCT Nb ₃ Sn coil, produced by PSI, with the L3-L4 coils and the 15 T dipole structure and test the magnet.
CCT Development	Nb ₃ Sn CCT	PSI	Auchmann, B.	Brouwer, L.	
CCT Instrumentation	Nb ₃ Sn CCT	PSI	Auchmann, B., Montenero, G.	Marchevsky, M.	MDP to provide advice as part of PSI/MDP Collaboration on CCT
FCC IR quadrupoles: design	Nb ₃ Sn, and magnet design	CERN	Schoerling, D.	G.Velev	Design of the 6 types IR quadrupoles for FCC, low lumi, and high lumi large aperture.
HTS magnets for high-radiation environment and Magnetization and AC losses of HTS conductors and magnets.	HTS Magnets	KEK, Kyoto U.	T. Ogitsu, N. Amemiya	Wang, Shen	
A Collaboration Framework To Advance High-Temperature Superconducting Magnets For Accelerator Facilities	Technology Development/HTS - HTS Magnet and Materials R&D	KEK, Kyoto Univ.	T. Ogitsu, N. Amemiya	Wang, Shen	
Industry					
Quench detection and current sharing in CORC	CPRD	ACT	Van der Laan, D.	Marchevsky, M	Ongoing STTR on developing active acoustic quench detection for YBCO coils used by the NAVY
Conductor R&D	CPRD	B-OST/Hypertech		Cooley, L.	Optimization and industrialization of high-Cp wire based on the RRP
CORC Development	CPRD	ACT	Van der Laan, D.	Wang, X.	
Development of High Performance Bi-2212 Precursor powder	CPRD	nGimat LLC		Shen, T.	Hall array and acoustic based diagnostic studies for conductor improvement
Quench detection and current sharing in CORC	CPRD	ACT	Van der Laan, D.	Marchevsky, M	GE is interested in localizing quenches in complex NbTi coil systems
STAR wire characterization	CPRD	AMPeers	Soumen Kar	Wang, X.	
CORC Development, COMB structure	CPRD/HTS	ACT	Van der Laan, D.	Kashikhin, V.	Buying CORC
Acoustic QD for fusion cables	Technology Development	Commonweath Fusion Systems	M. Segal	Marchevsky, M	Ongoing sponsored project on developing acoustic quench detection for fusion cables
Localization of hot spots in solids using acoustic waves	Technology Development	Commonweath Fusion Systems	M. Segal	Marchevsky, M	DOE-awarded Technology Commercialization Fund project to explore technology for acoustics localization of heat sources for commercial applications
Acoustic quench localization for NbTi coils	Technology Development	General Electric	M. Parizh	Marchevsky, M	Ongoing sponsored project, involving very large acoustic arrays for quench localization; close to completion
Quench detection and current sharing in substrate-free YBCO cables	Technology Development	Brookhaven Technology Group	V. Solovyov	Marchevsky, M	Crogenic FPGAs test support, exploring use of these devices in magnet diagnostics and quantum computers
Cryogenic FPGAs for quantum computers	Technology Development	Bleximo Corp.	A. Marchenkov	Marchevsky, M	
New epoxy testing	Technology Development	CTD	Andrea Haight	Krave, S.	Testing new epoxies in different configurations for CTD, SBIR
Multi-sensor acoustic quench localization	Technology Development	General Electric	M. Parizh	Marchevsky, M	Hall array and acoustic based diagnostic studies for conductor improvement
Other OHEP-Funded					
Magnetization studies	Conductor R&D	OSU	Sumption, M.	Wang, X.	
REBCO tape/wire characterization	Conductor R&D	University of Houston	Selvamanickam, Ver Wang, X.		
Fiber Optic Quench Detection	HTS Magnets	PSU/Lupine Materials and Technology		Shen, T.	
Internal					
High-Cp wire and cable characterization*	CPRD	FSU, LBNL		X. Xu	Part of the joint instrumentation effort for the 15 T project
APC development	CPRD	FNAL			Cris Kovacks PhD work
Test of HTS cables using FNAL bi-filar transformer	CPRD	OSU	Sumption, M.	E. Barzi	FNAL will provide high-Cp wire samples for various characterization
High-Cp wire and cable characterization*	CPRD	FSU, LBNL		X. Xu	Part of the joint instrumentation effort for the 15 T project

Characterization of CPRD Bi-2212 Wires	CPRD	FSU			Shen, T.	
Bi-2212 Coil Reaction	HTS Magnets	FSU			Shen, T.	
HTS Magnet Protection using CLIQ	HTS Magnets	FSU	FSU students to visit LBNL		Shen, T.	
REBCO and CORC	HTS Magnets	FNAL	V. Kashikhin	Wang, X.		Collaboration on small CORC coils
Acoustic instrumentation for 15 T magnet	Technology Development	FNAL	S. Stoynev	Marchevsky, M		
Rotating coil development for field quality measurements	Technology Development	FNAL		Wang, X.		
Other						
APC development	CPRD	FNAL				Exploring common grounds in using LBNL-developed diagnostics for lab-scale geoscience research Cris Kovacks PhD work
Test of HTS cables using FNAL bi-filar transformer	CPRD	OSU	Sumption, M.	E. Barzi		FNAL will provide high-Cp wire samples for various characterization
Development of High Performance Bi-2212 Precursor powder	CPRD	Engi-Mat LLC/Bruker OST/NHMFL		Shen, T.		
Characterization of CPRD Bi-2212 Wires	CPRD	FSU		Shen, T.		
High-Cp Nb3Sn wire development	CPRD	B-OST, B-EAS	Parell, J.	Barzi, E.		
Bi-2212 Coil Reaction	HTS Magnets	FSU		Shen, T.		
HTS Magnet Protection using CLIQ	HTS Magnets	FSU	FSU students to visit	Shen, T.		
Active acoustic methods for porous minerals	Technology Development	University of Illinois at Urbana	A. Bezryadin	Marchevsky, M		Exploring common grounds in using LBNL-developed diagnostics for lab-scale geoscience research; paper in review.
High Thermal Conductivity Resin Systems for High Energy Physics Magnets	Technology Development	CTD		Shen, T.		
High thermal conductivity and specific heat nanocomposite epoxy technology for accelerator magnets	Technology Development	Engi-Mat		Shen, T.		
Cable for HF Dipole	Facilities	CERN/PSI				
Completed						
High-Cp Nb3Sn wire development	CPRD	B-OST, B-EAS	Parell, J.	Barzi, E.		DONE
APC development	CPRD	FNAL				Cris Kovacks PhD work
Test of HTS cables using FNAL bi-filar transformer	CPRD	OSU	Sumption, M.	E. Barzi		FNAL will provide high-Cp wire samples for various characterization
History and Documentation of Nb3Sn Magnet R&D	CPRD	EuroCirCol	Schoerling, D.	Zlobin, A.		A book "Nb3Sn accelerator magnets - designs, technologies, performance" (eds. D. Schoerling and A.V. Zlobin), an overview of the worldwide R&D effort on Nb3Sn accelerator magnets, will be prepared and published by Springer
Acoustic Sensor Development	Technology Development	CERN	Willering, G.	Marchevsky, M.		CERN to install acoustic sensors on a long LHC Dipole
Acoustic Sensor Development	Technology Development	CERN	Kirby, G.	Marchevsky, M.		Using MDP AS on Feather II HTS magnet